

# Class of 1970 arrives; largest group yet at MIT

Approximately 925 new freshmen arrived on the campus of the Massachusetts Institute of Technology on Wednesday, Sept. 14, for their first pre-registration glimpse of undergraduate life at MIT.

The Class of 1970 was greeted at the opening meeting of Freshman Week End—the traditional four-day smorgasbord of orientation conferences, discussions, banquets, cook-outs, mixers, and tours—by MIT's new President, Howard W. Johnson, and Professor Paul E. Gray, Chairman of MIT's Freshman Advisory Council.

## 47 states represented

The new Class of 1970, which registers for classes on Monday, Sept. 19, arrived here from 47 states and 24 foreign countries. Its members came from 551 public schools, 115 independent or church-related schools and 36 foreign schools, where 196 had won varsity letters in athletics and where 224 had been on the editorial staffs of their school newspapers.

## Scholarship level soars

Sixty-three per cent of the entering freshmen are receiving scholarships, by far the highest

level yet at MIT. Scholarship aid from MIT alone will exceed \$500,000, an 89.5 per cent increase compared to last year's total. No qualified student was turned away because of financial need.

Based on College Entrance Examination Board scores, this year's freshman class is probably one of the brightest MIT classes yet, continuing a trend of recent years. More than half scored 750 or better in mathematical aptitude (the average CEEB score is 500). On the verbal test the median score was 690, indicating that the entering freshmen can also express themselves well.

One new freshman, who just turned 15 in June, has requested, and is likely to get, advanced placement in all freshman core courses, which means that he would begin in these areas at the sophomore level. The student, Don B. Zagier, Stockton, California, has been studying for the past year at Winchester College in England.

Three of the entering freshmen are the sons of members of the faculty who are themselves graduates of MIT. David H. Covert,

(Please turn to Page 3)

# Smullin selected Course VI head

By Mark Bolotin

Professor Louis D. Smullin has been selected to succeed Professor Peter Elias as Head of the Department of Electrical Engineering. Professor Smullin is most noted as the engineer who in 1962 succeeded in bouncing a laser light beam off the moon and detecting reflections back to earth.

Professor Smullin has been connected with MIT almost continuously since 1941. He received the BS degree in electrical engineering from the University of Michigan in 1936 and the MS degree from MIT in 1939. He later joined the Radiation Laboratory, where he directed the Microwave Gas Discharge Group.

After the war, Professor Smullin returned to MIT to organize and head the Microwave Tube Laboratory of the Research Laboratory of Electronics. He helped plan and set up Lincoln Laboratory and afterwards became Head of the Radar and Weapons Division at Lincoln. He received appointments as associate professor of electrical engineering in 1955 and professor in 1960.

## Plasma dynamics

More recently, Professor Smullin's microwave studies have led him to the general area of plasma dynamics, and he is now head of the Active Plasma Systems Group



Dr. Louis Smullin, new Head of the Department of Electrical Engineering, goes over data with associates which showed the group had successfully sent bursts of light from laser to the moon and received reflections back.

of RLE. This work—producing extremely hot plasmas—is basic to the long-range problem of power production through controlled thermonuclear fusion.

Professor Smullin has just returned from a one-year term on the electrical engineering faculty at the Indian Institute of Technology at Kanpur, India. He was a member of a three-man MIT committee which recommended that MIT organize and join in the university consortium which is now helping build Kanpur under

Agency for International Development support.

Professor Elias, who has served as department head since 1960, asked to be relieved in order to devote his full energies to teaching and research in information theory. During the coming year, Professor Elias will teach information theory at the graduate level and will lead a freshman seminar on the same subject. Also, he will rejoin the Processing and Transmission of Information Group in the Research Laboratory of Electronics.

## Students invited

# Inauguration of Johnson scheduled for October 7

The inauguration of Howard W. Johnson as the 12th president of MIT will be held on Friday, October 7, 1966. The program will begin at 10 am with an academic procession followed by the ceremony in Rockwell Cage.

## Tickets available

General admission tickets will be available for students who wish to attend the ceremonies. These tickets will not guarantee a reserved seat, but a large section of the auditorium will be available for students and the MIT community.

Single tickets can be obtained at the Information Office in the lobby of Building 7 on Thursday and Friday, September 29 and 30. Student identification will be required.

Approximately 4100 people will be seated in Cage for the Inauguration, and another 1500 will view the ceremonies via closed circuit television in Kresge Auditorium.

More than 225 Academic Insti-

tutions and Learned Societies will send delegates to the Inauguration and a luncheon afterwards will be held for them in the Dupont Athletic Center.

## Undergraduates hosted

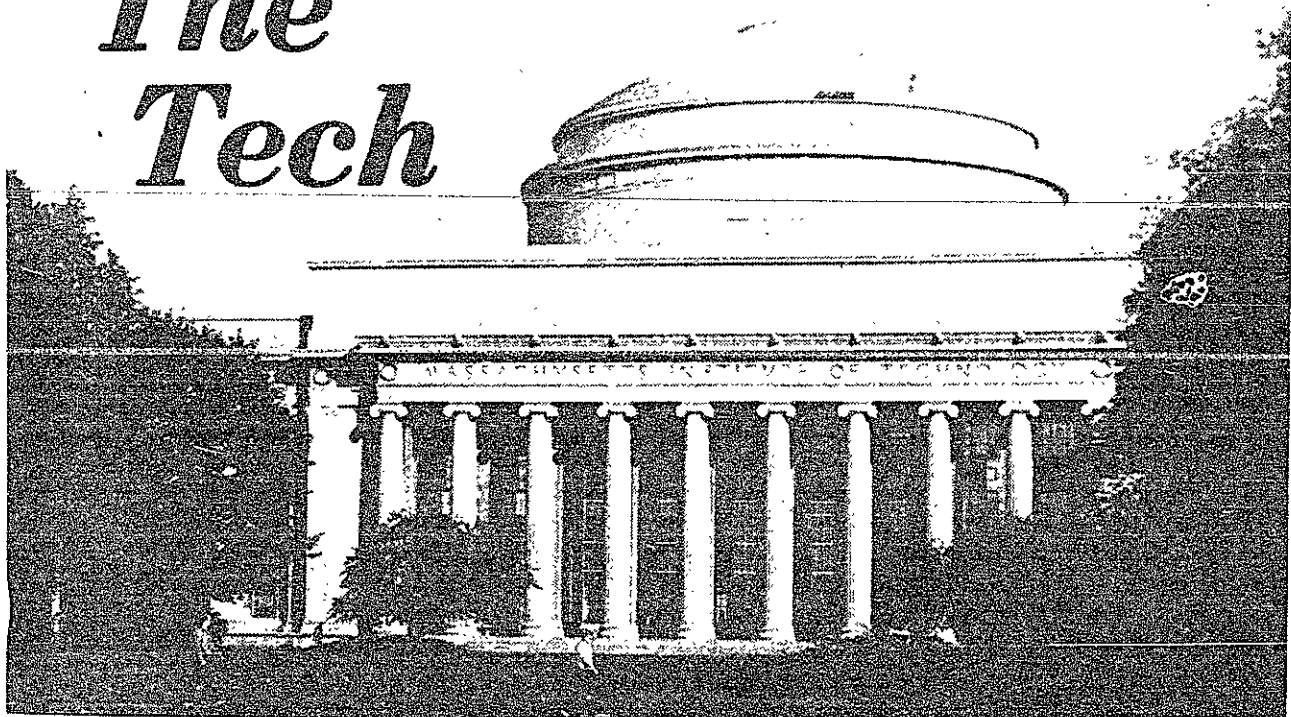
President and Mrs. Johnson have invited undergraduates and their guests to a reception and dance Saturday night, October 8, from nine to midnight in the Student Center.

A reception will be held for graduate students and their guests the following Thursday, October 13, from 4:30 to 7 p.m. in the Sala.

# Banking hours altered for personal deposits

The banking hours of the Student's Personal Deposits Office located in the basement of the Student Center Building will change from 9 am-2 pm to 9 am-2:30 pm. The hours at the other Bursar's and Cashier's Offices will remain the same.

# The Tech



Vol. 86, No. 29 Cambridge, Massachusetts Friday, Sept. 16, 1966 Five Cents

# 364 pledge at rush week

By Gordon Logan

Rush Week 1966 was an encouraging event for all fraternity men. Not only was there a record number of incoming freshmen registered for the week, but a new rec-

ord was set for the total number of rushees pledged.

IFC Rushing Chairman Ken Schoman '67 of Chi Phi was understandably pleased with the final results, but also added praise

for the smooth operation of the Clearing House. Under the direction of Bob McCrory '68 of Kappa Sigma the news system of computer analysis greatly facilitated the task of keeping track of all the rushees.

Partly responsible for the increase in attendance was the rewritten IFC Rush Book. The book was designed to encourage freshmen to look at the MIT fraternity system, and included tips on how to go through Rush Week.

Final totals were not available at press time, but Wednesday afternoon totals showed 695 rushees registered, up 42 from last year. 362 pledges were recorded, an increase of ten from last year, but ten or fifteen more were expected by the end of Rush Week at midnight Wednesday. A breakdown of the individual houses is as follows:

AEP	13	PKT	12
ATO	15	PMD	11
BTP	10	PSK	14
CP	15	PLP	13
DKE	7	SAE	16
DP	10	SAM	13
DTD	10	SC	10
DU	9	SN	11
KS	15	SPE	22
LCA	13	TC	13
PBE	8	TX	12
PDT	9	TEP	18
PGD	15	TDC	13
PKS	14	ZBT	24



RUSH, RUSH, RUSH is the password at Kresge Auditorium as the freshmen exit from the pre-rush week meeting. They are met eagerly by members of the 28 fraternities on campus, which drew 364 pledges in all by Wednesday midnight.

# Frosh receive SC booklet

A twenty-page, multi-colored booklet about the Student Center was distributed by the Student Center Committee to the freshman class.

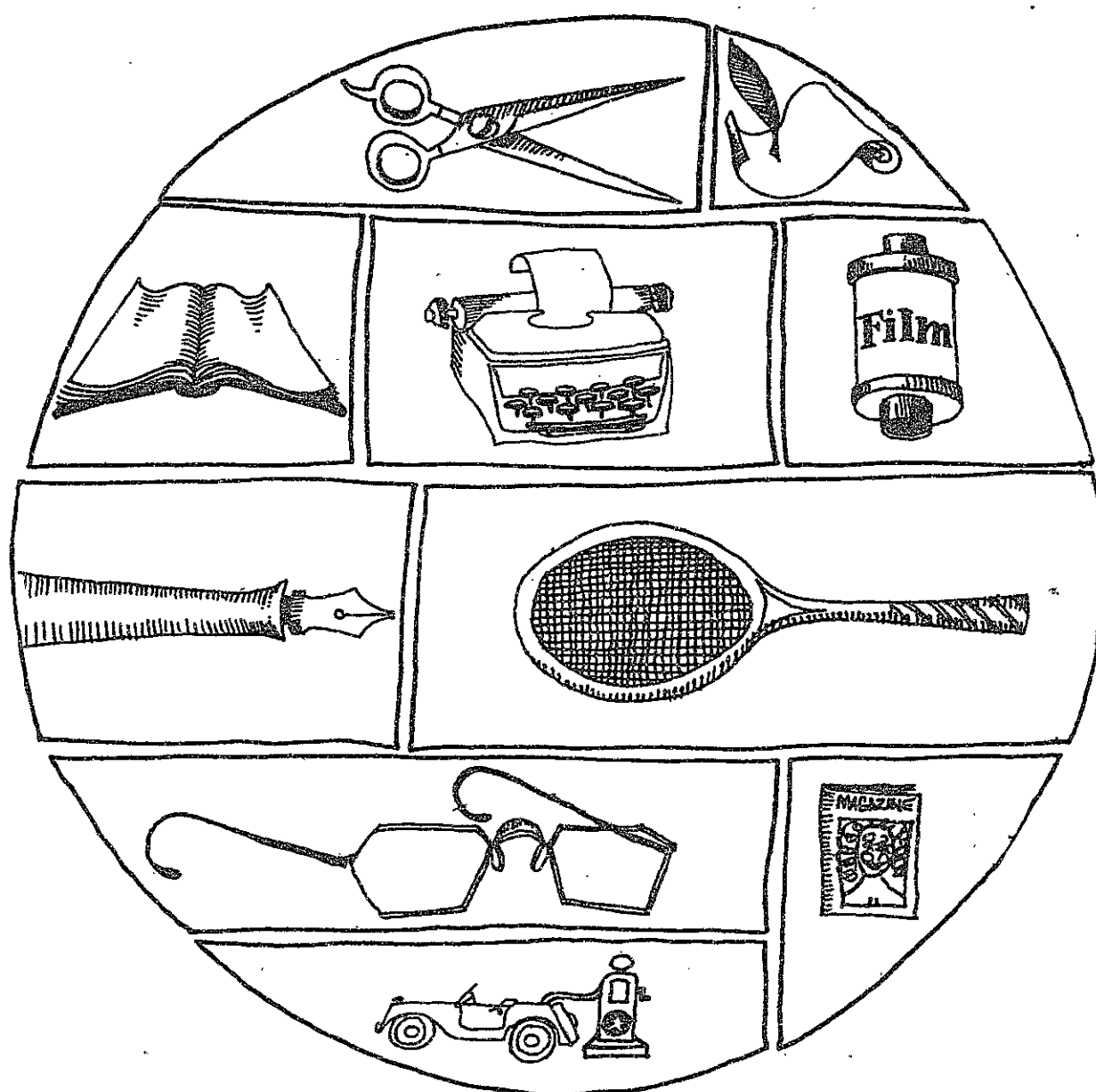
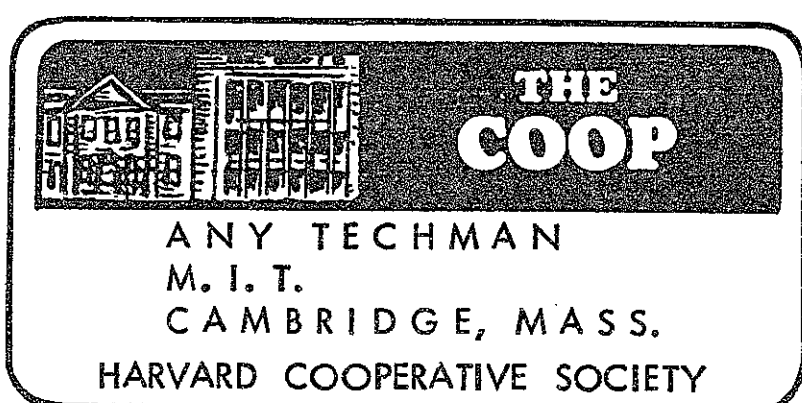
The booklet contains maps, hours of operation, and a directory to services with telephone listings. Although the booklet was ori-

ginally intended only to familiarize new students and guests with the Stratton Building facilities, the Alumni Association has agreed to pay for much of the production cost and will distribute a large number of copies to interested graduates.

# Mrs. Fassett stricken Wednesday



The MIT community was saddened Wednesday afternoon by the unexpected death of Mrs. Julie Fassett, wife of just retired Dean of Residence Frederick G. Fassett, Jr. Mrs. Fassett, for years the Institute's most loved hostess, was stricken suddenly at her home in Damariscotta, Maine.



# Passport to...a World of Service

On our 50th year of service to the M.I.T. community, the Tech Coop welcomes you to Cambridge and extends an invitation to join the Coop.

Membership for only \$1.00 annually entitles you to receive a patronage dividend on every product or service you purchase at not only the Tech store, but also at the Harvard Coop (Harvard Square) and at Coop affiliated stores and garages.

Coop membership allows you to charge your purchases and still get a patronage dividend. (It is suggested that all undergraduates have a definite understanding with their parents as to the extent it will be used.)

In addition, a check cashing service is available on Saturday between 9:00 a.m. and 2:00 p.m.

The Coop's wide-aisled Book and Record Department has all the textbooks you'll need and a large selection of technical and scientific books. The Record Department carries a great selection of popular and classical music.

The Coop is the best place to shop for all your personal, as well as class needs. The Men's and Women's Shops, Stationery,

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**Crimson Garage,** 55 Boylston Street (near Harvard Square).

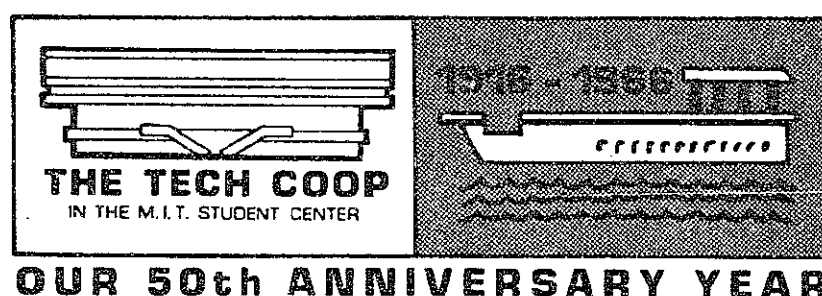
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## Tech Coop simplifies procedure for exemptions from sales tax

The Technology Store of the Harvard Coop, in cooperation with MIT, has worked out arrangements for students to claim their sales tax exemption on textbooks with a minimum of inconvenience.

The sales tax regulations for the Commonwealth of Massachusetts which went into effect last year exempt the purchaser of any textbook "required for instructional purposes" from the payment of the three percent sales tax on that book. In order to claim this exemption, the Commission on Corporations and Taxation requires that the student present the vendor with a form, signed by an authorized officer of the Institution, certifying that the book was required for a course in which the student was registered.

After an investigation, which included a survey of methods used by other Boston area institutions to comply with the law, MIT and the Coop formulated a plan which it is hoped will be a minimum of inconvenience to students and staff alike.

Blank forms, signed by Professor William N. Locke, Director of Libraries, will be available in all MIT libraries, including the Reserve Reading Room on the fifth floor of the Stratton Student Center. To claim his exemption, the student should obtain forms, fill in the blanks with the name of the textbook and the course for which it is required, and present the forms to the cashier in the Coop at the time he pays for the books. Only required books for courses in which the student is actually registered should be listed.

## To form auxiliary dorm

# Apartment house rented

By Gerry Banner

A new apartment house at 27 West Street, Cambridge has been leased by the Institute as an auxiliary dormitory to alleviate the housing shortage on campus.

MIT's newest living group will house approximately 42 students and resident tutor in 8 four room apartments. Groups of six students will inhabit suites consisting of a kitchen, living room, and 2 bedrooms. The West Street dorm will contain air conditioning and wall-to-wall carpeting.

### Similar to Bexley

Only about 13 of the residents of the new dorm will be freshmen to insure adequate representation of the uppermen. The format will be very similar to that of Bexley Hall, and Commons meals will be optional. The new dorm is located off Central Square behind Cambridge City Hall about 3/4 of a mile from the Main Buildings of the Institute.

The housing problem has reached critical proportions with the conversion of 45 East Campus single rooms to doubles. In addition 3 floor lounges in Baker Houses have been converted to triples to house overflowing freshmen. During Rush Week, before

360 freshmen had pledged and moved into fraternities, many frosh had to be housed temporarily in the second floor of the armory.

### MacGregor planned

The planned MacGregor Dorm,

to be located west of Burton House, is now in the engineering drawing phase, and will reduce the overcrowding considerably when it is erected. Meanwhile, the Institute has secured a five year lease on the West Street facility.

## 925 frosh arrive at MIT; boy, 15, seeks soph status

(Continued from Page 1)

Belmont, Mass., the son of Professor Eugene E. Covert, Aeronautics and Astronautics Department; William D. Kingery, Jr., Marion, Mass., the son of Professor W. D. Kingery, Department of Metallurgy; and Patrick M. Leehey, Swampscott, Mass., the son of Professor Patrick Leehey, Department of Naval Architecture and Marine Engineering.

### New Degree Offered

This year's class will be the first to whom the new degree of Bachelor of Science in Art and Design will be offered by the Department of Architecture. Undergraduates who elect this program will be able to earn a degree in four years in any one of four

areas of concentration: architecture, city planning, visual design or history, theory and criticism of the visual arts.

MIT is also planning to offer a full-scale humanities major for the first time—subject to the approval of the MIT faculty at its meeting next Wednesday. Until now at MIT it has been possible to choose a humanities major only in combination with a major in engineering or science—a double major. The new humanities major would give students with multiple tastes and talents more freedom to change their minds.

## Dr. Zalewski named Course IV professor

The appointment of Dr. Wacław Zalewski as professor of architecture at MIT has been announced by Dean Lawrence B. Anderson of the School of Architecture and Planning.

Dr. Zalewski is widely known for his pioneering work in shell and prefabricated structures, especially because of the ingenuity and purity of form of his design, and has often been referred to in Europe as "a new Pier Luigi Nervi".

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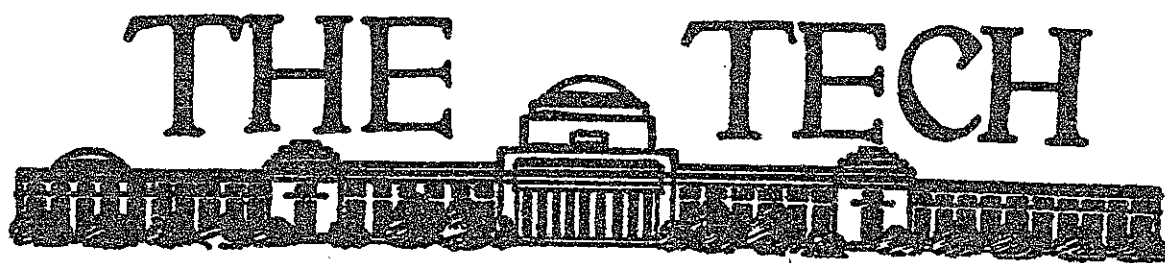
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# In sympathy

When Julie Fassett died suddenly Wednesday each MIT under-graduate lost one half of a team that had served, comforted and cheered a generation of Tech students.

During Dean Fassett's decade as Dean of Residence and in addition during his service as Master of Ashdown House last year, Mrs. Fassett entertained thousands of students at teas, dinners and parties. Ever a most gracious hostess, she charmed us all by providing good food, pleasant surroundings, and stimulating conversation. On top of all this she often managed to remember our names, even when greeting us months later as she made her way about the campus.

We will miss her, especially now that we can't look forward to an occasional visit from Maine where she and Dean Fassett retired earlier this summer. As we miss her, we can only extend our heartfelt sympathy to the man whom she served as helpmate and companion for almost forty years.

## The second time

Cambridge summers are long and dreary, particularly to the breed of species known as a VooDoo staffer.

It's not too surprising then that when a group of bored present and past VooDooers meet in the humdrum atmosphere of the Cambridge summer trouble would soon follow.

Up popped the thought of rehashing last summer's fun idea and inducting a suitably chosen part of the Class of 1970 into that well known frosh honorary "Sigma Alpha Pi; better known as SAP.

Out went pompous letters of congratulations to about 500 members of the freshman class whose main achievement to date consisted of appearing on the left-hand side of the registrar's 'Admitted List.' Those so chosen were encouraged, as last year, to write a short essay accepting the offer of honor and send back same, with picture, to a post office box in the Student Center post office.

Not content with hooking unsuspecting freshmen (who probably deserve it); the ever jolly funnyman also dispatched a note of congratulations and a press release detailing their offspring's achievement to about half of the lucky SAPs' parents. The press release, complete with an MIT seal on the letter head, needed merely to be filled in and submitted to the local newspaper by the proud parent.

The second time around wasn't a charm however, as in came irate letters and phone calls to the Deans' Office, the Admissions Office, and even the President's Office, from parents and freshmen who have apparently gotten wiser in the past twelve months. Threats of legal action were encountered from one irate victim.

Up went the anger of a certain well-known Dean of Student Affairs; out went inquiries to determine whose post office box was receiving return SAP mail; and in came VooDoo circulation manager Marc Levenson, a senior in physics with six straight terms of 5.0 cum and the bad luck to be chosen fall guy for this particular stunt (Levenson apparently stood still when volunteers to visit 7-133 were asked to take one step forward — the rest of the summer VooDoo staff all took one step backward.)

After a short discussion, Levenson signed and sent to all SAP freshmen a letter admitting the hoax and apologizing for any inconvenience it may have caused.

Since the conclusion of the incident several of the VooDoo hierarchy have attended additional discussions in the Deans' Office, and it appears that both



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the undergraduate Activities Council, chaired by VooDoo editor Keith Patterson, and the Faculty Committee on Discipline may be requested to act on the matter.

After all, 'You can fool some of the people all of the time, and all of the people some of the time, but you can't fool all of the people all of the time — A Lincoln.

## Demonstrate sense

'The long hot summer is over, but it would be surprising if one facet of student life, the political demonstration, fails to reach its hottest point in the next few months.

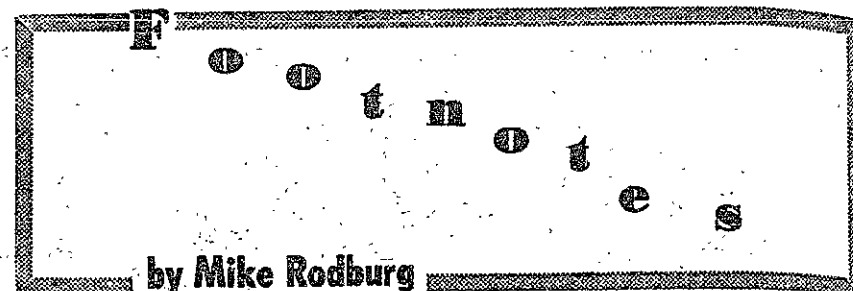
Since most students have been scattered by vacation, the past summer has seen little student political zeal released in Cambridge, but the fall elections, the continuing war in Viet Nam, the mounting draft call, and the lure of the streets is bound to produce more action as student groups reorganize and recruit.

Far from condemning the action that will result, we feel that a certain amount of activity is a healthy sign of the MIT student's concern with the world he lives in. This campus contains chapters of the Students for a Democratic Society, the Young Americans for Freedom, the Young Democrats, and the Young Republicans. We have a Bull Moose Club, a Socialists Club, and a Civil Rights Committee. We also have a Committee Opposing the War in Viet Nam and a Committee for Victory in Viet Nam. As long as these groups sponsor speakers for the community, and talk rationally to each other they are useful and beneficial.

What all of us need to remember, however, is that honorable men can disagree honorably. The other fellow can still be considered both sane and human even if he doesn't agree with you on Viet Nam, open housing, or Lyndon Johnson.

Last year crude signs and cruder taunts greeted peace marchers as they passed 77 Mass. Ave.; while the South Vietnamese Ambassador to the U.S. was treated with severe disrespect by some of his Kresge audience. Neither example portrays how we feel supposedly intelligent and mature students should conduct their political debate.

We are supposedly a community of scholars, if we can't conduct civilized meetings of differences of opinion, it's useless to expect rational debate in the country at large.



79. A former footnote has finally materialized, as Course XI officially became City and Regional Planning. This action has, as the expression goes, filled in the blanks — there are now 23 courses. Incidentally, Course XI was at one time Sanitary Engineering. Considering the plight of today's cities, old eleven hasn't advanced too far.

80. Our neighboring schools have bolstered the prestige of President Howard Johnson. He now boasts honorary doctorates from both Harvard and Northeastern Universities.

81. We wonder why the Institute seems to want to disassociate itself from the general catalogue issue for 1966-67 by providing us with an unreadable black on black cover? Apparently MIT is so status conscious it desires an unlisted bulletin.

82. Where did the nation's business elite go to school? Surprisingly, one-third never attended college. Of those that did, MIT ranked 10th over all for providing captains of industry and commerce, ahead of 4 of the Ivy League schools. (But, alas, behind Harvard, Yale, and Princeton—one two, and three, respectively.) All this according to a recent Standard & Poor's report.

83. The American Alumni Council has given MIT the Time-Life award, the top prize in direct mail competition among State Universities and Land-Grant colleges. No, this award was not given to the IFC for its summer rush material, but for direct mail techniques used in announcing the campus summer program. Probably the

Time-Life award is named in honor of those publications whose relentless pursuit of the elusive subscriber has supplied us with pencils, stamps, contests, and thousands of imploring letters telling us we are stupid, uninformed bores because our subscriptions run out in May of 1976 and we haven't renewed at a savings of \$1.96 off the newsstand price.

84. There is at least one freshman who is not complaining about paying \$1900 a year to Tech. We won't divulge his name, but his family has an athletic center named for them on the campus of a well known eastern technical school.

85. As the frosh arrived last Friday for the start of Rush Week they were met at the airport by the many fraternities stationed there. One very dapper, promising young man was immediately converged on by about 7 houses, each eager to escort him to the clearing house. He was very nearly whisked clear out of Logan before he could protest audibly that he went to Harvard.

86. The Connecticut General Life Insurance Company has distributed this year \$85,206 to 171 privately supported colleges under the company's annual Program of Aid to Higher Education. These funds are unrestricted as to use and are given in the form of grants which match employee contributions. MIT's share, it was announced this week, amounted to \$5. Remember, this is an unrestricted financial grant, so any suggestions as to what MIT can do with it would be appreciated.

## Inside Inscomm

### A few words of advice to the class of 1970

By Frank March, UAP

The first few weeks at MIT are an exciting blend of meeting new friends, beginning new courses of study, and entering a whole new spectrum of social adjustment. In all this flurry it is easy to lose sight of what one can get from and give to this new environment of MIT. So it is necessary that an entering student define, or perhaps re-define, his goals for life at MIT.

Among these goals should be desire to realize the meaning of personal responsibility in an educational environment. Our whole student government and our structural MIT-student relationships are built on the assumption that students are, or can be, responsible, so this goal is indeed an important one.

A further goal should be the development of leadership. This development will be beneficial, if not more so, than any other single quality gained while at MIT. The success of MIT graduates in the business and educational world is indeed in large part due to the qualities of leadership developed while at MIT.

So work hard and play hard, but don't forget your commitment to yourself and to the MIT community, and don't neglect to evaluate your progress here. I wish you the best of luck for your four years here, and, of course, a warm welcome to MIT.

## Kibitzer

By Mark Bolotin

East was able to take complete control of the defense and to defeat what appeared to be an ice-cold contract. While South's opening bid of one notrump with a worthless double- (Please turn to Page 8)

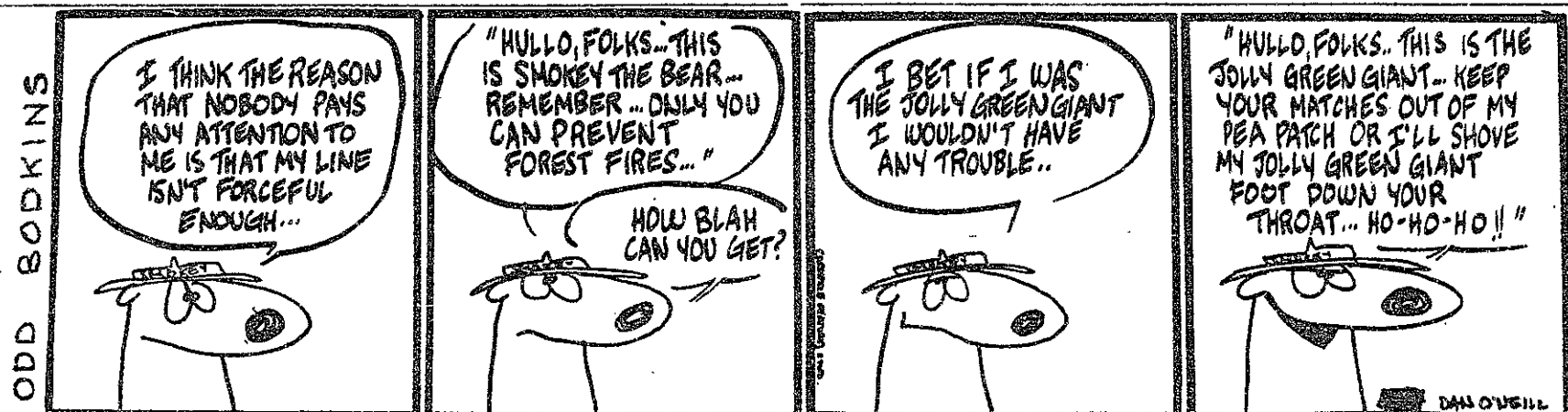
North  
♠ 6 4  
♥ J 3  
♦ K Q 10 9 8 3  
♣ A 8 4

West  
♠ 7 2  
♥ 8 7 6 2  
♦ 5 4  
♣ J 10 7 3 2

East  
♠ Q J 10 5 3  
♥ Q 10 9  
♦ A J 2  
♣ K 5

South  
♠ A K 9 8  
♥ A K 5 4  
♦ 7 6  
♣ Q 9 6

Bidding  
South West North East  
1 no tr'p pass 3 no tr'p pass  
pass pass  
Opening lead: ♣ 3





**Affects upperclassmen****Format for Registration Day changed**

On registration day, upperclassmen will pick up roll cards in the Armory rather than in Building 13 or Building 10. Freshmen will obtain their cards in Walker Memorial as in the past.

Principal reason for the change is that additional space is needed for taking color photographs of all those registering for the first time as undergraduates or graduates. All students above the freshman year who received a degree in June, 1966, or who were not registered second term of 1965-66, will be photographed before proceeding to the roll card stations. Those continuing as undergraduates or graduate students will go directly to the rear of the Armory to obtain roll card jackets. Freshmen will be photographed on Friday, during Orientation.

**New permanent card**

Roll card jackets of continuing students will contain a new permanent registration card, without picture. Students who are required to be photographed will receive a similar permanent card, but with picture attached, on October 3 at a place to be announced.

At the same time that photographs are made for the cards, additional copies will be made to serve as roll card pictures and turned in to instructors. Thus stu-

dents are advised to wear a jacket and tie for the picture.

The plastic identification card was adopted in order to make identification off campus easier for students.

In addition to the picture, the new cards will include the student's Social Security number, to avoid confusion in case of similar names, month and year of birth, and a space on the back to affix a current sticker certifying that the student is registered. The card

is invalid without the sticker, which is distributed with roll cards. The cards are Hollerith coded to make them compatible with anticipated mechanization in the near future.

Individuals who are not present on Registration Day, but are required to have pictures taken may be photographed in 3-003, before obtaining their roll cards in the Cashier's Office. Any errors on the card should be discussed with the Bursar.

**Alfred Sloan Chair in Meteorology awarded to Dr. Jule G. Charney**

Dr. Jule G. Charney, one of the world's leaders in the application of computers to weather analysis, has been appointed Alfred P. Sloan Professor of Meteorology. He will be the first to occupy this new chair, established through a fund pledged by the late Alfred P. Sloan, Jr.

Dean Jerome B. Wiesner of the School of Science, who announced the appointment, said "Professor Charney's contributions to meteorology as a science have been highly significant. He is an authority on dynamical meteorology

and oceanography and pioneered in the field of numerical weather prediction. The appointment of a distinguished scientist is appropriate to honor the memory of Mr. Sloan."

**Worked with von Neumann**

Dr. Charney's career includes the directorship of the Meteorological Research Group at the Institute for Advanced Studies at Princeton, N.J., during which time he was associated with the late Dr. John von Neumann at a time when new concepts were being involved for the mathematical analysis of weather by large computers.

**Matthill Editor of Tech Review**

John I. Matthill, Director of Publications at MIT, has been appointed Editor of Technology Review, the monthly magazine of the MIT Alumni Association. William T. Struble, who has been Editor of the Technology Review for four months, and was previously its Managing Editor, has been appointed Director of Publications.

Mr. Matthill has been Director of Publications since 1952, having come to MIT from the State University of Iowa in 1948. He is a graduate of Carleton College in Northfield, Minnesota, and of the State University of Iowa.

Mr. Struble came to MIT in 1959 as Assistant Director of Public Relations and appeared as host on the WGBH-MIT television program "Science Reporter." Since 1964 he has been Managing Editor of Technology Review. Mr. Struble is a graduate of Hobart College, and has studied languages at the Sorbonne, Yale University, Harpur College and Middlebury College Summer Russian School.

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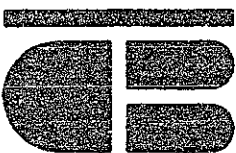
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### Cambridge Chorale plans auditions

The Cambridge Chorale, for singers who like to sing mixed repertoire ranging from pre-baroque to the present, will hold auditions for all voices at the First Church in Cambridge, Congregational, corner of Garden and Mason Streets, opposite the Common, near Harvard Square, on Monday, Tuesday and Wednesday evenings, September 19-21, from 7:30 to 9:00 p.m. No appointment is necessary. If further information is desired, please call 876-5829.

## movies . . . A departure from the commonplace

By Jeff Stokes

Not everybody will like "Who's Afraid of Virginia Woolf?" Many people are too distressed by the sight of a marriage blowing itself to bits to enjoy the story of Martha and George; or else the raw language scandalizes them; or else they can't stand to have their images of Elizabeth Taylor and Richard Burton destroyed. The pair have been cast into a role quite different from their previous performance in an all-time smash spectacular like "Antony and Cleopatra." Even "Sandpiper" was tame by comparison.

But if you are sick and tired of the usual schmaltzy rot that emanates daily from Hollywood, with

**'WHO'S AFRAID OF VIRGINIA WOOLF?'**, based on the play by Edward Albee; directed by Mike Nichols; starring Elizabeth Taylor and Richard Burton; now playing at the Astor Theatre.

its Main Street morality and respect for all-American traditions, you might appreciate Mike Nichols' rendition of the controversial Albee play "Virginia Woolf" wrenches an anger out of you and moves you to a kind of sympathy that only a playwright can produce. The film is raw because life can be raw.

And yet "Virginia Woolf" is a love story. Even though George and Martha lay into one another with language that would make a drunkard blush, one can detect beneath the surface of their innuendoes a real bond between them. They cling to each other, in this subworld, out of their mutual weakness, a lack of drive and creativity. Martha, tough as a longshoreman, is enough to destroy any man she lives with, unless he is wise to her games. As she tells Nick in the kitchen, George is the only one who can learn the rules of her games as fast as she can make them up.

Martha insists on living in a

world of illusion with her fantastic son; she would have gone on doing so with any man but George, who forced her to face reality. This is all Martha wanted: authority. Like any women, she has the need to be dominated, to be, in a sense, the inferior of at least one man. Of all but George she is the superior, or at least that is how she feels in the presence of other men. The fact that George proved a flop, as far as succeeding her father as president of the college is concerned, means nothing in the final analysis; it merely provides her with ammunition. He is the only one who can master her, and this is what she wants. He is the only one who can protect her from Virginia Woolf.

A word about the filming: in Albee's play the scene is set in George's living room throughout the piece, even though part of the action occurs off-stage. In Mike Nichols' film version, the scene shifts from the living room to the kitchen, to a swing out in the yard, to the bedroom, to a roadhouse, and back to the livingroom again. This moving about is smoothly done and serves to break up the monotony that might arise from having a single set. The film is a brilliantly edited version of the play in which the raunchy language is soft-pedalled but not eliminated.

Take a dare and go see "Virginia Woolf". It's a film that works by double meanings and subtle suggestion; it may perplex you even after the third time; but there is a lot of substance to it if you are bold enough to look.

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# Season opens next week

The Boston Symphony Orchestra announces that season subscriptions are available for its Tuesday and Thursday concerts in Symphony Hall. The Orchestra's new season, the Eighty-sixth, will open on September 23 with a performance of Mahler's Symphony No. 3, which will be repeated at the opening concert of each of the seven subscription series.

The two Tuesday series, Series A and Series B, each have a number of subscriptions available. Series A, consisting of 10 concerts at 8:30, will begin on September 27. Music Director Erich

Leinsdorf has invited Richard Burgin, Colin Davis, Rafael Kubelik, Charles Munch and Gunther Schuller to be guest conductors at these concerts. For the six concerts of Tuesday Series B, which begin at 7:30 on October 4, Thomas Schippers and Mr. Schuller have been invited as guest conductors.

Two Thursday series of concerts will also begin at 8:30 p.m. Series A, six concerts, will open on September 29. The Thursday Series B concerts will begin on October 6.

## Movies and theatres

### MOVIES

Astor — 'Who's Afraid of Virginia Woolf?' 10:15, 12:30, 2:50, 5:10, 7:25, 9:45; Sun. 1, 3:10, 5:15, 7:25, 9:35.  
 Battle — 'Beat the Devil' 5:30, 7:30, 9:30; Sun. 3:30, 5:30, 7:30, 9:30.  
 Beacon Hill — 'The Russians are Coming, The Russians are Coming' 10:30, 12:45, 3, 5:15, 7:30, 9:45; Sun. 1, 3:10, 5:20, 7:30, 9:40.  
 Boston Cinerama — 'Khartoum' 8:30; Sat. 2, 8:30; Sun. 2, 8:30.  
 Cinema Kenmore Sq. — 'Dear John' 1:30, 3:30, 5:30, 7:35, 9:40.  
 Cleveland Circle — 'Oklahoma' 1:15, 4:15, 7:25, 9:40.  
 Esquire — 'Torn Curtain' 3:20, 5:20, 7:20, 9:20.  
 Exeter — 'A Patch of Blue' 1:30, 3:20, 5:20, 7:20, 9:20.  
 Fine Arts — 'Potemkin' 'Alexander Nevsky' starts Sun. 'Ivan the Terrible' parts I and II.  
 Gary — 'The Sound of Music' 2, 4, 6, 8, 10; Sun. 1, 3:15, 5:15, 8.  
 Harvard Sq. — 'A Fine Madness' 2:55, 6:15, 9:45; 'A Big Hand for a Little Lady' 1:20, 4:35, 8:05.  
 Mayflower — 'Battle of the Bulge' 10, 12:25, 3, 5:35, 8:15; Sun. 1, 3:15, 5:15, 8.  
 Music Hall — 'Gigi' 10, 12, 2, 4, 6, 8, 10; Sun. 1:30, 3:30, 5:30, 7:30, 9:30.  
 Orpheum — 'Chamber of Horrors' 10, 12:10, 2:05, 4:05, 6, 8, 9:55; Sun. 1:45, 3:45, 5:45, 7:45, 9:45.  
 Paramount — 'One Spy Too Many' 11:15, 2:40, 6, 9:25; Sun. 2:35, 6, 9:30; 'The Alphabet Murders' 9:40, 1, 4:25, 7:50; Sun. 1, 4:20, 7:40.  
 Paris — 'A Man and A Woman' 2, 4, 6, 8, 10.  
 Park Sq. Cinema — 'The Pawnbroker' 1:30, 5:30, 9:30; 'The Servant' 3:30, 7:30.  
 Savoy — 'Beau Geste' 11:47, 3:12, 6:37, 10:02; Sun. 3:02, 6:22, 10:02; 'Don't Worry, We Will Think of a Title' 10:15, 1:40, 5:05, 8:30; Sun. 1:30, 5, 8:30.  
 Saxon — 'Doctor Zhivago' 8:15; Wed., Sat. 2, 9:15; Sun. 2, 7:30.

Symphony I — 'Darling', 'Taste of Honey'.  
 Uptown — 'Glass Bottom Boat', 'Big Hand For a Little Lady'.  
 West End Cinema — 'The Shop on Main Street' 11:35, 1:55, 4:20, 6:40, 8:55; Sun. 1:55, 4:20, 6:40, 8:55.

### THEATERS

Charles Playhouse — 'Love for Love' by William Congreve; Sept. 22-Oct. 30; Tue., Wed., Thur., Fri., 8:30; Sat. 5, 9; Sun. 3, 7:30.  
 Colonial Theater — 'The Loves of Cass McGuire' Sat. 2:30; closes Sat.: 'I Do I Do' with Mary Martin, Robert Preston; starts Sept. 26-Oct. 15.  
 Rockport Playhouse — 'The Fantasticks' by Tom Jones and Harvey Schmidt thru Oct. 2.  
 Shubert Theater — 'The Apple Tree' with Barbara Harris; Thur. 2:15; Sat. 2:30.  
 Wilbur Theater — 'At the Drop of Another Hat' by and with Michael Flanders and Donald Swann; starts Sept. 26-Oct. 8; except Sun. 8:30; Sat. 2:30, 8:30.

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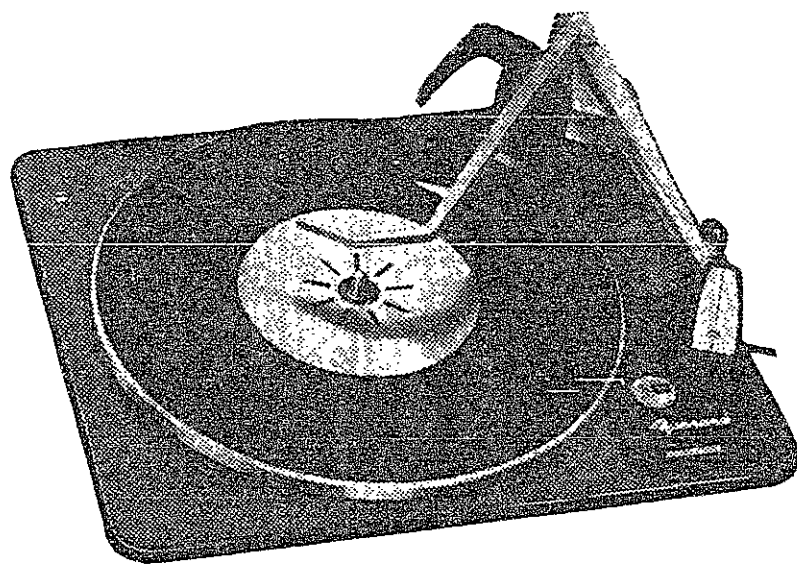
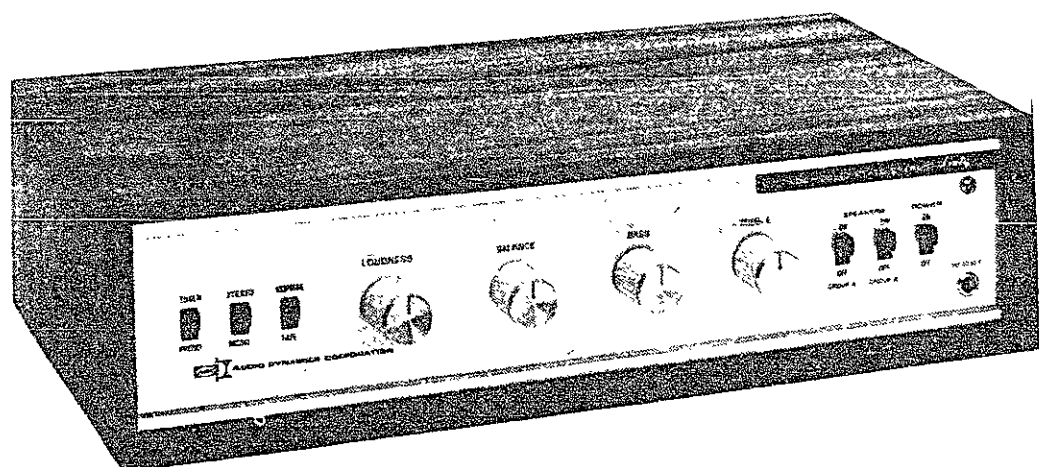
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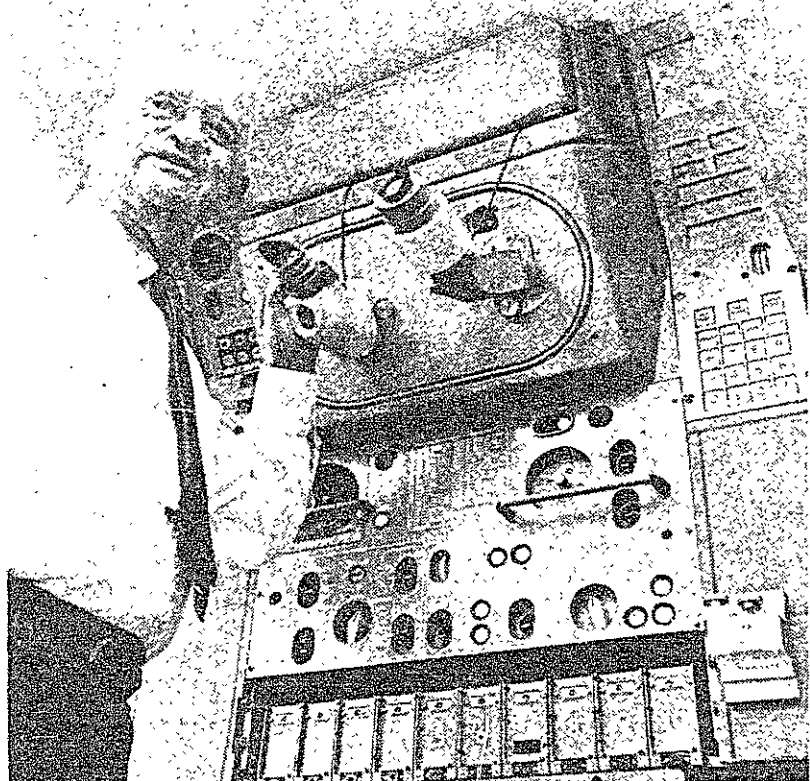
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## Guidance system designed

# MIT offers contributions to Apollo space program



Dr. Charles Draper, Director of Instrumentation Laboratory, sits at the controls of a model of the guidance and navigation system his laboratory developed for the National Aeronautics and Space Administration's Project APOLLO mooncraft.

By Jim Smith

While MIT the school may have been in places from Hawaii to Miami soaking up beneficial sun-rays, MIT the business was having a landmark summer of space achievements in the Apollo program, the designing for which, like most of NASA's projects, was the direct and sole responsibility of the Institute's Instrumentation Laboratory.

The crucial contribution of the "I-Labs", headed by Professor Charles S. Draper, was in the design of the inertial guidance system necessary for all such flights. The remarkable accuracy of the first Apollo flights this summer is a credit to the quality of work

produced in the Instrumentation Lab.

MIT is not involved in the manufacture of the various spacecraft, but formulates the designs and supervises the testing of interim and final models.

The system of advanced guidance presently being formulated under Professor Draper is called SABRE, for Self Aligning, Boost, and Re-Entry.

MIT makes no financial gain from work done under federal contract in the I-Lab. Rather the Institute receives its greatest gain in the research activity of Professors and students in the lab and the dynamic impact that this has on the updating of the regular MIT curriculum and knowledge.

# Killian speaks to alumni

By Chuck Kolb

To the average student, whose conception of MIT's Alumni Association is an open palm extended immediately upon graduation, last week's Alumni Officers Conference was a pleasant surprise.

Approximately 400 permanent class officers, alumni club officers, and members of the education council (who interview hopeful future freshmen) paid impressively studious attention to Corporation Chairman James R. Killian, Jr. '26, Dean Paul E. Gray '54, Dean Kenneth R. Wadleigh '43, Director of Admissions Roland B. Greeley, and President Howard W. Johnson explain the problems and opportunities facing MIT now.

Along with explanations of the new freshmen curriculum, reports on the student environment, and facts about admission procedures, the alumni did hear some fiscal facts. Among them: 16,272 contributors donated \$2,210,356 to MIT through the Alumni Fund in

1966, compared to \$1,592,244 by 15,225 alumni collected in 1965, and \$968,880 from 14,971 alumni in 1964.

## Second Century

The alumni also heard how the Institute is spending the \$98,500,000 collected through the effort of the Second Century Fund as well as an additional \$16 million added to SCF funds by government and foundation grants. According to Chairman Killian the resulting \$114.5 million was divided into: Major buildings for teaching and research, \$32.8 million (Green Bldg., Bush Bldg., Hermann Bldg., Whitaker Bldg., Center for Space Sciences, etc.); Facilities for students, \$17.4 (Student Center, Boathouse, Eastgate, Westgate, McCormick Hall, etc.) Utility buildings, future buildings, modernization, \$5 million; Student aid, \$8.9 million (including \$4 million endowed); Faculty salaries, \$10.8 million (including \$7 million endowed); Basic research, \$8.5 million; New programs for

enriched education, \$29.9 million; and Other, \$1.2 million.

## Faculty pay

Dr. Killian also told the alumni that only "2, 3, or 4 institutions pay their faculty better salaries and fringe benefits than MIT does, but we ought to be first." He indicated that the Institute is working towards that goal.

As an example of "fallout benefits" from the Second Century Fund, Dr. Killian pointed out that since some donations were given explicitly for a new chemistry building, even though that was not a fund goal, final plans have been completed and approved for such a structure.

## Other activity

In addition to being briefed by the administration, the alumni actively attended panels on Alumni Association activities and problems, saw displays from the Science Teaching Center and Educational Services Incorporated, listened to faculty members talk about research and study advances, saw the Pierce Boathouse dedicated.

Throughout the conference's activity an atmosphere of almost classroom intensity prevailed. Little "have another drink for the class of '38" feeling was present, instead the delegates seemed to be seriously trying to find the best ways to apply their professional knowledge as well as their financial success to the task of improving and supporting the Institute.

At least to the delegates at this year's Alumni Officers Conference, the Alumni Association is not something to be joked about or ignored, but a tool with which to improve a school they are proud to have attended.

# Alumni Association chooses Manglesdorf as president

Theodore A. Manglesdorf of New York City and of New Kent, Virginia, retired executive vice-president of Texaco, Inc., and a 1926 graduate of the Institute, has been elected President of the 55,000-member MIT Alumni Association for 1966-1967.

Mr. Manglesdorf succeeds Samuel A. Groves of Wellesley, Massachusetts, President of United-Carr, Inc., of Boston. He will formally assume office at an Alumni Day luncheon in the MIT Great Court, Monday, June 13. Some 1500 alumni and their guests returned to the campus for the annual Alumni Day Program.

The Association nominated 3 of its members for 5-year terms as alumni members of the MIT Corporation. They are John K. Jam-

ieson '31, President of Standard Oil of New Jersey; John Lawrence '32, President of Dresser Industries, Inc.; and George R. Vila '33, President of the US Rubber Company.

Mr. Manglesdorf, the new Association President, is a native of Atchison, Kansas. He received his bachelor degree in 1926 and his masters degree in 1929, both in the field of chemical engineering.

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## Kibitzer . . .

(Continued from Page 4)

ton isn't the most orthodox, the final contract of three no trump would be reached by almost any bidding sequence.

East won the opening club lead and surveyed the situation. It was apparent that he could count on his partner for no more than a Jack, and the opening lead of the three of clubs with the deuce missing indicated a probable five-card suit. There did not appear to be time to set up two heart tricks before declarer established the diamond suit, but East saw a way to foil declarer.

## Spectacular duck

East exited safety with a club, when declarer led a diamond to the King, East ducked. South returned to his hand with a spade and led another diamond. East won and returned a spade; declarer no longer had the entries to establish the diamonds and was helpless to make his contract.

In spite of East's fine defense, declarer should make his contract. At trick three, South should lead a diamond to the board and play the ten. Since East probably has a doubleton club, he cannot knock the club Ace off the board. Declarer can later go to the board with a diamond to knock out the Ace and still has the Ace of clubs as an entry to the diamonds.

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## MIT to aid publishing

by Geoff Russell

MIT may soon be in the newspaper business. The American Newspaper Publishers Association and MIT last week announced the establishment of a newspaper research project designed "to investigate experimentally how some of the recent advances in information transfer engineering can be applied in the newspaper publishing business."

The project is to be carried on at MIT in conjunction with Project INTREX, a larger program of information transfer experiments under the direction of Dr. Carl F. J. Overhage, who also serves as one of three members of an ANPA Scientific Advisory Committee.

The program's initial efforts will be centered around computer-aided procedures in editing and in-

formation management. It will be under the technical direction of William B. Kehl, newly-appointed Associate Professor of Electrical Engineering, and Associate Director of the Computation Center at MIT.

The overall goal of the project at MIT, and of Project INTREX as a whole, is to apply the newest means of information storage and retrieval, of analysis, of character recognition, of reproduction, and of distribution of information to the operation of newspapers in much the same way in which

they are to be used in the model library of the future. There are even possibilities that the editor of the future will be a 1620.

## Tech employees' union to vote on new contract

The Negotiating Committee of the MIT Technical Employees' Union has agreed to a settlement with the Institute which if ratified will avert a strike of 1500 workers.

The vote on the two-year agreement is set for Tuesday, September 20. The Negotiating Committee will recommend ratification to the unions.

The previous bargaining agreement expired July 1, and was extended by mutual agreement, while negotiations have been in progress since that date.

## ADVERTISEMENT

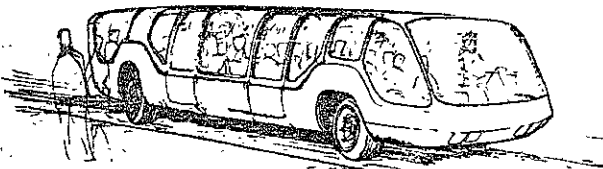
## THE BIBLE says:

He that followeth after righteousness and mercy findeth life, righteousness, and honour.

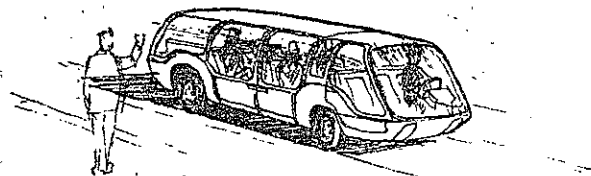
—Proverbs 21:21

## Automated transportation planned

1



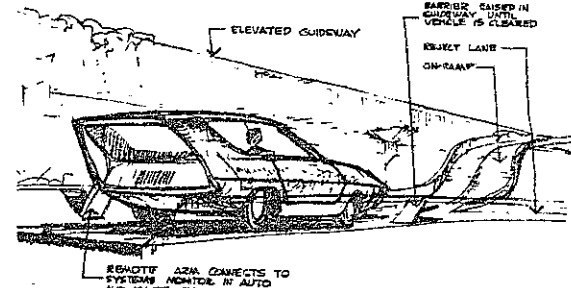
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3



4



Drawings of four different vehicles suggested for the METRAN urban transportation system; 1—the low-slung 40 passenger Bos; 2—the variable-route 10 passenger GENIE vehicle; 3—the two-passenger PERC capsules; and 4—the personal vehicle for conventional travel and automated guideways.

## Ruina appointed Vice-President upon return from 2-year leave

Dr. Jack P. Ruina, professor of electrical engineering at the Institute, who had been on leave since September 1964 while serving as President of the Institute for Defense Analyses in Washington, D.C., returned to MIT July 1 as Vice President for special laboratories.

The announcement of the vice presidential appointment was issued by President Howard W. Johnson.

Dr. Ruina will be the Institute's

senior officer on matters relating to the two national service laboratories administered by the Institute for the U.S. government, the Lincoln Laboratory and the Instrumentation Laboratory.

Lincoln Laboratory in Lexington, Mass., conducts fundamental research in communication sciences, computer sciences, and in general and applied physics, astrophysics and geophysics. The Instrumentation Laboratory in Cambridge specializes in inertial guidance, navigation and control systems and is designing, among several assignments, the guidance system for the Navy Poseidon missiles and the guidance-navigation system for NASA's Project Apollo mooncraft.

Students in the MIT systems engineering course have developed a master plan for improving and automating urban transportation.

"Project METRAN" is an evolutionary student proposal. The program would start with small improvements now, including streets for buses only in downtown areas, and non-scheduled jitney buses in suburban areas.

## 30-year plan

But if the proposal were carried out, urban transportation would gradually over the next thirty years become fully automated, with everyone riding automobile-like personal vehicles or buses over computer-controlled guideways built out of present highways and rapid transit lines.

## 10 departments involved

The 14-week interdepartmental course entitled "Special Studies in Systems Engineering" gives seniors and graduate students experience in working on large and complex problems that require people from many different professions. The 39 students enrolled this year included majors in civil engineering, electrical engineering, aeronautics and astronautics, mechanical engineering, mathematics, metallurgy, management, political science, city planning and architecture.

## Hillel Foundation announces events

The MIT Hillel Foundation cordially extends an open invitation to the following activities:

Friday, Sept. 16, 9:00 pm: A Visit With BU Hillel. Meet in front of the DuPont Athletic Center.

Saturday, Sept. 17, 9:30 am: Sabbath Services. MIT Chapel.

Saturday, Sept. 17, 8:30 pm: Orientation mixer featuring The Cadillacs. Student Center, Sala da Puerto Rico.

Sunday, Sept. 18, noon: Freshman reception, Student Center, Mezzanine Lounge.

Sunday, Sept. 18, 5:00 pm: Freshman picnic. Meet in front of Kresge. Small charge for non-members.



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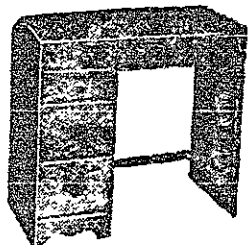
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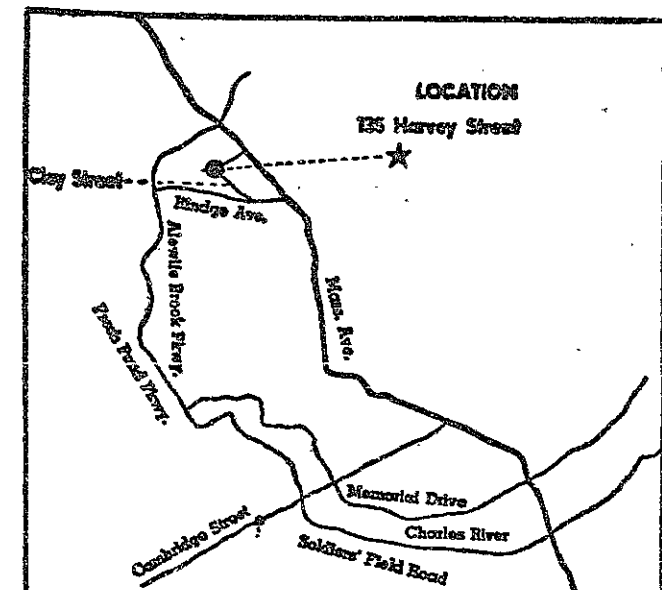


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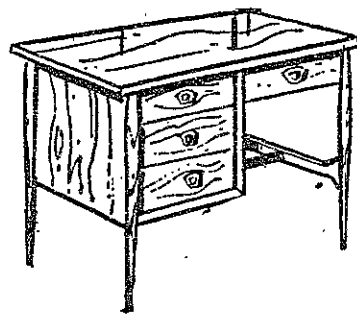
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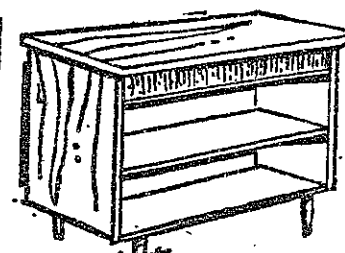
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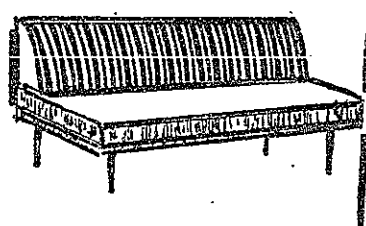
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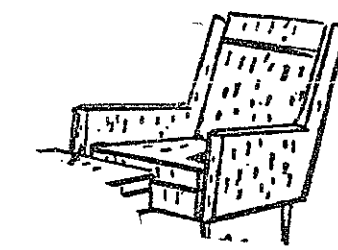
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## NERO command capsule

# Space rescue plan devised

If an astronaut ever gets stuck in space, students in a class at MIT have a plan for launching rescuers into orbit to save him.

They call it NERO (for Near Earth Rescue Operation) and they worked out a complete 400-page preliminary engineering design and analysis for it as the class project in an interdepartmental course in space systems engineering this past spring term.

The student plan would use the Martin Co. TITAN III-C rocket as the NERO booster. The NERO command capsule and its subsystems, however, they designed themselves, based on the boat-shaped M-2 lifting body concept for re-entry vehicles developed at the federal space agency's Ames Research Center, Calif.

### Three major purposes

NERO, operating in orbits 100 to 300 miles high, actually would have three purposes: rescue, manned inspection of satellites, and re-supply of such vehicles as the proposed manned orbiting laboratory (MOL). Of the three, the students suspect NERO's most frequent use would be inspection, particularly of satellites launched by other nations. They estimate there will be a need for six NERO-type inspection missions a year by 1975.

But if manned launches continue increasing in frequency, the students believe NERO crews could be called on for orbital rescue work at the rate of once or twice a year by mid-1970's.

Purpose of the course, taught by a team of professors headed by Paul Sandorff, of the Department of Aeronautics and Astronautics, is to give seniors and graduate students a foretaste of the team approach to large-scale space system design and development.

### Previous projects

In previous years, students in the class have worked out plans for such projects as a manned mission to Mars, an orbiting as-

trophysical observatory and a weather satellite.

The class this year chose an orbital rescue system as their design project because the National Aeronautics and Space Administration already has indicated a need and an interest. The students divided themselves into sub groups, worked out the entire plan, and reduced it to a single final report, plus a model of their proposed capsule.

### Lectures at Cape Kennedy

Highlights of the course were lectures by leading space scientists and engineers from government and industry and a tour of facilities at Cape Kennedy, Fla., sponsored by the U.S. Air Force.

The course was concluded May 24 when the class made a day-long oral presentation of their proposal before an audience of university, government and industry officials.

Although they did not design it, the students were required to conduct a complete booster analysis and their conclusion was that the Martin TITAN III-C would be particularly useful for the NERO job. With more than three million pounds of staged thrust, the booster is capable of putting 26,000 pounds of payload into an orbit 100 miles high. The students designed their spacecraft at 13,000 pounds, and used the excess booster capability to carry propellants which would provide the generous maneuvering capability necessary for complex rendezvous missions. Moreover, the TITAN III-C, because its upper stage liquid engines use storable non-cryogenic fuels, can be counted down to T-minus-195 minutes and held on stand-by for up to 30 days—an adequate time in which to back up a manned flight in which a NERO rescue might be needed.

### Four persons in capsule

In its rescue configuration, the NERO capsule would have room for four persons. The students visualize a pilot and co-pilot taking

it into orbit and bringing down stranded astronauts two at a time. The two passenger seats would be removed in the inspection configuration and replaced with other gear, including space grappling hooks to pull in suspicious orbiting objects for a close look. Radar would be used for rendezvous and intercept.

The NERO vehicle was designed with an optimum chase capability. Using the liquid-fueled final stage of the TITAN III-C, NERO crews would be able to make one orbital altitude change plus a five-degree change in orbital plane and still have fuel left for re-entry, or any combination of these that add up to a total of 5,000 feet per second in velocity changes.

### Few hours notice

An attractive feature of the NERO concept is that it could be launched—from Cape Kennedy or Vandenberg Air Force Base in California—on a few hours' notice and could land at any of several pre-designated fields in the continental U.S. This means a stranded astronaut would never be stuck for more than half a day or so. The NERO vehicle would gain landing maneuverability during re-entry and return from the aerodynamic characteristics of its boatlike shape. In addition, its flight characteristics for landing would be augmented by a 4,500-pound thrust jet engine, with sufficient fuel for about 15 minutes of powered flight time during final approach to provide for a wide margin of error.

## Gil new Associate Dean for Executive Programs

Dr. Peter P. Gil, for the past four years Director of Executive Development Programs and Senior Lecturer at the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology, has been appointed Associate Dean for Executive Programs.

Announcement of the appointment was made by the School's Dean William F. Pounds. Dr. Gil will continue to be responsible for the Executive Development Programs at the School. These include the Sloan Fellowship Program which provides an academic year of graduate study for a select group of young business executives and semi-annual 9-week graduate programs for key senior business executives.

Dr. Gil, who served with the parachute infantry in Europe in World War II, was graduated cum laude from Harvard College in 1949 and received the master of business administration degree from the Harvard Business School in 1951.

From 1951 to 1956, Dr. Gil was assistant manager of the staff training and research division of the Aluminum Co. of Canada, Ltd. He joined the staff of the Centre d'Etudes Industrielles in Geneva, Switzerland, in 1956 and served successively as Dean of Students and Assistant Director. While in Geneva, Dr. Gil was consultant and lecturer in executive development for several major industrial organizations and universities in Europe.

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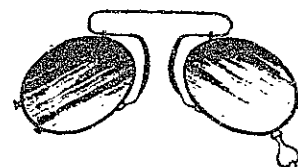
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## SC Art Studios to hold classes

Evening and Saturday morning room 425 Tuesday evening, September 20, at 7:30, to discuss their plans. They are Mimi Luft, Art Wood, and Cora Pucci.

Each class will meet once a week for about 14 weeks, following registration Wednesday and Thursday of next week. The fees are \$10 for class fee plus \$2 for locker fee if a locker is required, the classes will be on hand in per term.

The three artists who will teach

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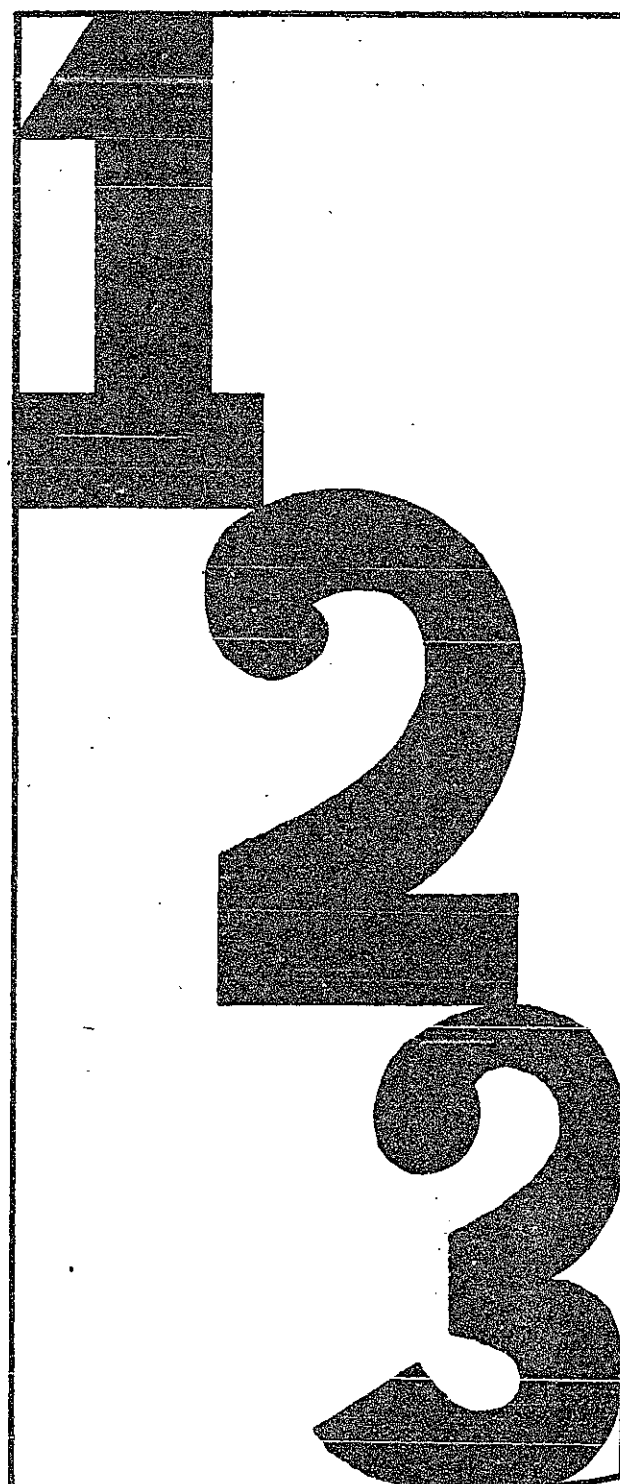
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# 70 attend Science Day Camp

For 70 energetic boys, Saturday marked the end of a summer experience in learning at MIT. The boys received certificates of attendance from Richard Adelstein, student co-chairman of the MIT Science Day Camp, at this year's closing exercises in Kresge Auditorium. The audience of more than 100 was composed of approving parents and friends.

**Valedictorians speak**  
Valedictorians from each of the three classes enrolled made brief speeches outlining the accomplishments of their classes during the summer. They were Wayne Scott who will enter Longfellow School, Cambridge in September, and Roy Lans and Steven Donohoe from the Webster School, Cambridge, who will begin ninth grade next month.

**Johnson addresses group**  
A highlight of the program was a brief address by Howard W. Johnson, new president of MIT, who stressed the value of the Science Day Camp both to the boys

enrolled and to the Institute. The campers, he said, bring vitality to the faculty, challenging its concepts of education. In return, the faculty gives the campers an opportunity to share knowledge at the frontiers of science and technology. Mr. Johnson also pointed out one reason for the camp's success, "The remarkable thing is that learning should be combined with fun."

The camp was started a year ago by MIT for boys in its neighborhood. Last summer's program met with such success that by request of the campers, Saturday classes were scheduled throughout the school year.

Since the beginning of this year, the MIT Science Day Camp has been subsidized in part by the Office of Economic Opportunity under Project Upward Bound, directed by Dr. Richard T. Frost.

## Basic aim

The basic aim of the camp is to assist in developing the learning abilities of the boys to the extent that they will be able to enter college. The same group, plus additions each year, can continue in the program until their graduation from high school. Though nearly all of the boys come from Cambridge, several from Boston

joined the group this summer.

More than 40 members of the MIT faculty have taught in the program so far. Lecture material is kept to a minimum and emphasis is placed on harnessing the enormous energies of the campers in laboratory and other activities which help them to understand the concepts involved.

Camp days are full of activity. In groups of 20 to 25, the boys go to two classes each day, one class attending measurements and logic in the morning and a course in cities in the afternoon; another, communications and humanities; and this year's new class, biology and physics. After the morning class there is an athletic period, then lunch. A seminar period in the afternoon gives the boys a chance to pursue informal interests. This is followed by the second class or laboratory and a swim period which concludes the day.

## Wednesday trips

On Wednesdays the regular schedule is suspended and counselors and campers take to the road on field trips. Using the criterion that field trips must be entertaining as well as educational, forays have been made to Benson's Wild Animal Farm, Plymouth, the Plum Island Wildlife Preserve, Sturbridge Village, the Canada Dry plant and a newspaper.

The MIT Science Day Camp was organized under the auspices of the MIT Committee on Community Service and the student Social Service Committee. Faculty director is Dr. Warren M. Brodey. Student co-chairmen are Richard Adelstein and Michael Efron. One undergraduate counselor is assigned to each group of four to six campers. The counselor attends classes with his campers, helps them with any questions they may have and acts as a strong link between the camp and the boys' families. Active involvement of the families is essential to fulfillment of the camp's aims.

# Betas challenged by SAE for third straight IM football crown

Beta Theta Pi will be shooting for their third straight IM football crown this fall. The Beta powerhouse shutout Sigma Alpha Epsilon in last year's final, 9-0. For the Sailors this was their second straight final game loss to the Betas, so they will be looking for a return match this year. SAE last won the title in 1963. Zeta Beta Tau will return to defend their "B" division crown as will Phi Sigma Kappa in the "C" division.

Actual competition will begin Saturday, September 24, at Briggs Field. Rosters, deposits, and team information forms are due in the Athletic Association office by Friday, September 16 from

fraternities, and by Monday, September 19 from dormitories. Season schedules for both undergraduate and graduate divisions will be available Tuesday, September 20, in the Athletic office.

Organizations will be allowed to switch players from "A" to "B" teams during regular season play, but all rosters will be frozen after season play ends on October 8. Playoffs will be held on October 15 and 22.

A referees' meeting will be held Wednesday, Sept. 21, at 7:30 pm in the conference room at DuPont. All persons interested in officiating IM football should attend. All questions regarding IM football should be directed to manager Jack Swaim, X-3782.

# Study indicates teeth lose weight

Underfed rats develop "lean" teeth devoid of storage fat, two MIT nutrition scientists have reported.

The finding, they said, may explain why underfed people often have surprisingly good teeth.

The scientists are Dr. Robert S. Harris director, and Dr. Salil K. Das a staff member at the Oral Science Laboratories of the Department of Nutrition and Food Science at MIT.

They made their report before the Seventh International Nutrition Congress being held at Hamburg, Germany.

Fatty acids are stored in the tissues of the body as glycerides and are gradually chopped up to produce energy as needed; Non-glyceride lipid metabolites, on the other hand, function in the body to assist in the transfer of materials across cell membranes and to transport fat-soluble nutrients such as vitamin A throughout the body.

The teeth of well-fed rats con-

tain as much glyceride as non-glyceride lipids.

Dr. Harris and others in his group at MIT recently reported differences in the lipid patterns of the teeth of 16 species of animals.

In their experiment with underfed rats, Dr. Harris and Dr. Das wanted to find out whether the kinds and amounts of lipids and fatty acids in teeth are influenced by diet.

A control group was permitted to eat as much as desired. The test group was given each day two-thirds as much as the control. This amount permitted the test animals to grow slowly, but at all times they were hungry.

The researchers found no fat (glycerides) in the teeth of test animals which were sacrificed as early as three weeks after the start of the experiment. On the other hand, the amount of metabolically-active non-glyceride lipids increased by 40 per cent.

When animals, including man, are underfed, they lose their fat and become lean. The MIT experiments have shown that the teeth also become lean, the investigators said.

No correlation with dental caries was attempted in this study. Nevertheless, the scientists predicted that lean teeth are more resistant to cavities than fat teeth. Teeth are not inert, they pointed out. Radioactive tracer studies have shown that teeth are metabolically active, especially young teeth, and that minerals and compounds are transferred via the dental tubules which honeycomb the tooth structure.

The MIT scientists speculated that the glycerides present in dental tubules of well fed animals plug the tooth passages and hinder tooth metabolism.

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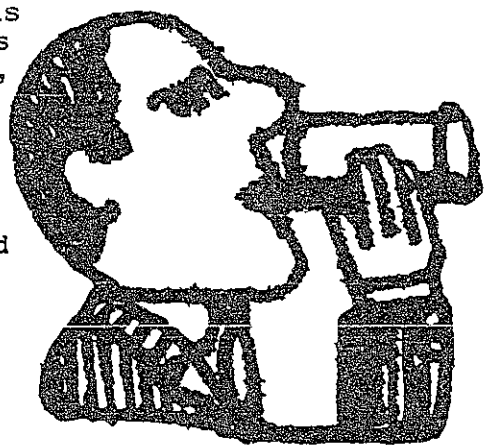
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It makes  
plenty of noise  
all by itself.

Sprite, you recall, is the soft drink that's so tart and tingling, we just couldn't keep it quiet.

Flip its lid and it really flips. Bubbling, fizzing, gurgling, hissing and carrying on all over the place.

An almost excessively lively drink. Hence, to zlupf is to err.

What is zlupping?



Zlupping is to drinking what smacking one's lips is to eating.

It's the staccato buzz you make when draining the last few deliciously tangy drops of Sprite from the bottle with a straw.

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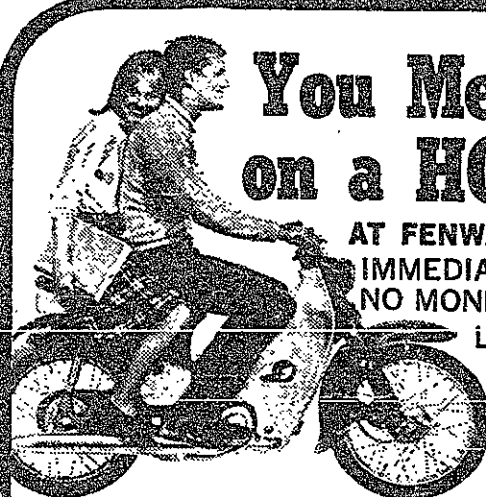
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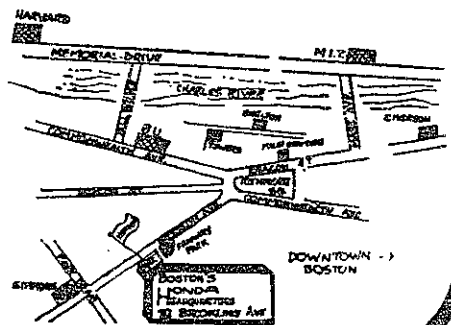
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# Pierce Boathouse dedicated

By Tony Lima

The new Harold Whitworth Pierce Boathouse was dedicated on Friday, September 9. The dedication of this structure gives MIT one of the most modern collegiate crew training and rowing facilities available anywhere.

The boathouse houses the most advanced indoor rowing simulator in existence. The simulator contains a stationary eight-oar rowing frame and will simulate free water rowing conditions by moving a high-velocity stream of water past the frame at variable rates up to full racing speed. This year-round training facility will allow MIT oarsmen to build up to the 34 to 38 strokes per minute used in international and Olympic competition. The rowing simulator will be equipped with movable platforms that are free to roll with the same degree of stability as an actual shell so that an oarsman can learn proper balance as he rows at any chosen speed.

Killian presides

Dr. James R. Killian, Jr., Chair-

## Joe Duplin wins sail championship

Sailing coach Joe Duplin had an interesting summer, winning the European and North African Championships by 11 points. The championships were held August 23 September 1 in Switzerland. Joe finished ahead of a three-way tie for second place in the International Star class sailboats.

From September 2 to 10, he competed in the world championships in Germany. He would have won this also, except that he broke a bone in the third race and finished sixteenth. In the four other races, Duplin took a first, 2 seconds and a third. If he would have turned in a comparable performance in the third race, he would have easily won the championship. Duplin will return for his third season as head coach this fall.

## Cagers return from Europe with 14-12 won-lost record

By Tony Lima

Tech's varsity basketball team recently completed a six-week tour of Europe. The cagers played 26 games, winning 14, in Iceland, Luxembourg, Yugoslavia, Greece and France.

The team began their trip in Iceland, where they spent four days, but played only one game in which they were beaten 60-56. From there, they flew to Luxembourg, where they defeated the national team of that country, 44-37.

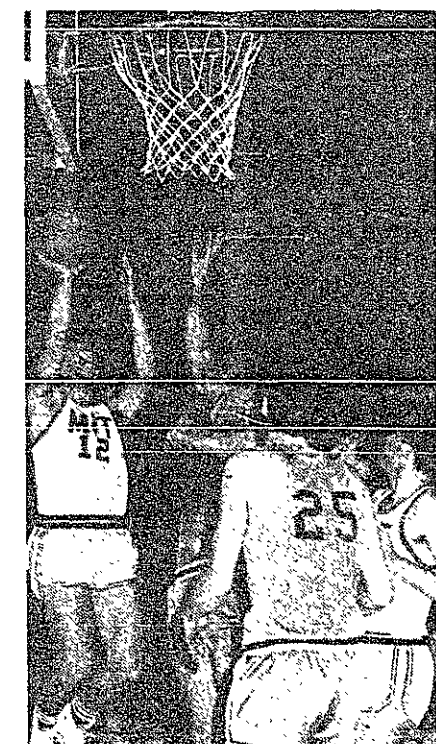


Photo by Jeff Reynolds

Jack Mazola '66, ex-captain of the team, lays the ball up for two. He starred on the team's European tour.



Photo by Jeff Reynolds

Mike Kruger '67, Commodore of the Boat Club, fires a cannon at the dedication of the new boathouse on September 9. Mike rows in the light eight, and has been rowing varsity for three years.

man of the Board at MIT, presided at the dedication and made the formal presentation. MIT President Howard W. Johnson accepted on behalf of the Institute.

Speakers on the program were Professor Ross H. Smith, MIT Director of Athletics; J. Michael Kruger, '67, who is commodore of the Boat Club; and Jack H. Frailey, who has been head crew coach since 1959.

Simulator to be instrumented

The Athletic Department plans later to instrument the simulator so the forces exerted on the oarlock and footboard can be measured accurately. This will make it possible to compare the strength, timing and endurance of different oarsmen. In addition, observers will be able to study the effects of different blade shapes and riggings. These instruments also may make it possible to vary the water speed automatically in order to simulate actual rowing condition more closely.

The building will accommodate 24 eight-oar shells, 6 fours, 6 pairs, enough racing sculls and practice gigs for the intercollegiate and recreational rowing programs and

a corresponding number of sweep and scull oars. Storage capacity is approximately double that of the old boathouse.

History of good crews

During their 46-year history, MIT crews have made strong showings in intercollegiate regattas and in the Henley Royal Regatta in England. The MIT heavies won the Eastern Sprint Championship at Washington, D.C. in 1951, beating Harvard by one foot. The lights won the Thames Challenge Cup at the Henley in 1954 and again in 1955.

## Golf strongest of 4

# Sophomores lift fall sports

Four fall teams begin their seasons in the next two weeks. The varsity golfers open their season on September 23, meeting Vermont and Clark in a triangular match. Returning at number one position is Gerry Banner '68. Captain Travis Gamble '67 and Jack Rector '68 are expected to provide a nucleus from which Coach Merriman will build a team. Sophomores expected to provide needed depth include last year's number one man, Tom Thomas, along with Greg Kast, Mike McMahon, Carl Everett and Bill Stewart. Everett will be lost to soccer this fall, but will be back in the spring. Banner is expected to be outstanding among the New England golfers. He won his city championship this summer, shooting 67-73-71. Behind him, there will be a scramble for positions. Thomas and Kast, as freshmen, averaged in the middle 70's. The Sir George William Tournament in Montreal October 14 is expected to be the top match, followed by the ECAC match at Bethpage, New York October 21-22. This should be the best team for the golfers in years.

Sophs boost cross-country

The cross-country team is be-

ginning the season with high hopes. The team's main problem will be filling the sizeable shoes left by the graduation of Sumner Brown. The harriers begin their season October 1 with the Engineer's Cup race with WPI and RPI at Worcester. Leading the team will be captain Harry Link '67. He along with Dan Hoban '68 and Helge Bjaaland '67 will provide a base from which the team will grow.

Sophomores expected to provide needed support are last year's Greater Boston freshman champion, Stan Kozubek, along with Jim Yankaskas, Tom Najarian, Rich Wolfson and John Usher. No runner will be assured of his position, for the quality of last year's frosh places even the number one position very much in doubt.

Soccer changes coach

The soccer squad will be operating under a new coach this year. Bill Morrison has been moved up from the freshman team to take over the varsity slot. Prospects for the team look good this year. Faced with an eleven game schedule which includes Holy Cross for the first time, the engineers open against WPI there on September 28. The team will be led by co-captains Rick Gos-

tyla '67 and George Jones '67. Markowitz '67 will be unavailable this year, as he turned professional over the summer. Sophomores expected to be helpful additions to the team are Joe Kadich, Tom Turri, and Carl Everett.

The team is currently practicing from 10 to 12 in the morning and 2 to 4 in the afternoon. At 6, they see training movies. Morrison is now seeking to provide the training the team will need later in the season. They are faced with a tough schedule, playing Middlebury, the defending New England champions, a week after the season opens.

Sailors rebuilding

The sailors are facing a rebuilding year. They must find replacements for Terry Cronburg, Don Schwanz, Joe Smullin, whom they lost through graduation last year. Right now, they have a nucleus of four to six good sailors, but the team needs a lot of work and has not yet really jelled. The sailors will be captained by Chet Osborn '67.

The team is currently practicing from 10 to 12 in the morning and 2 to 4 in the afternoon. At 6, they see training movies. Morrison is now seeking to provide the training the team will need later in the season. They are faced with a tough schedule, playing Middlebury, the defending New England champions, a week after the season opens.

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## Four Tech graduates compete in World Rowing Championships

Four MIT graduates competed in the World Rowing Championships held in Bled, Yugoslavia this summer. These four were chosen for the U.S. team at the National Championships held in Philadelphia on August 21. The four are Seymour Cromwell '64, Arthur "Sandy" Blanchard '65, Robert Sandel '64 and John Schilling '65.

Sy Cromwell rowed in the 1964 Olympics in a Double scull and won a silver medal. He went to Henley that year and won the Diamond Sculls. Sy is currently

rowing for the San Diego Rowing Club.

Sandy Blanchard rows in an eight for the Union Boat Club. He graduated in metallurgical engineering.

Bob Sandel and John Schilling both row in the four for the Union club. Bob rows stroke, while John is the three man. Bob is a course X graduate. John was captain of the MIT crew in 1965. He graduated in mechanical engineering.

The U.S. team will include 36 oarsmen, coxswains, and alternates in all seven Olympic events. When the team returns, it will tour privately in this country.

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